

in December. Heavy debris loads in the canal severely affected the efficiency of recovering the salmon in the sieve-net, so these experiments were postponed until January 1996.

There was no fish monitoring near the intake channel of Mallard Slough Pumping Plant in October through December.

Data Utilization Work Group

Karl Jacobs

The Data Utilization Work Group convened its first meeting on January 12. Topics included: development of a bay/delta bathymetry database for biologists and modelers, placement of CVP and SWP bay/delta water quality operations data on the IEP file server, real-time monitoring data management, acquisition and management of data collected by the new water quality monitoring program, placement of DAYFLOW onto the server, and several other information

issues that will provide better access to data needed by biologists and engineers who work on bay/delta projects.

Work on the IEP file server is continuing. One of the first steps has been to make all the IEP data accessible from a home page (www.iep.water.ca.gov) in text format. Most of the IEP data have been loaded onto the server. Improvements to make the data easier to access will be based on recommendations of those who use the file server. Please E-mail your recommendations to Murray Ng, mdng@water.ca.gov.

Salmon Tissues for DNA

Sheila Greene

In 1994, DWR contracted with the University of California for genetic research to discriminate winter-run chinook from the other three Central Valley races of chinook salmon using a non-lethal tissue sampling technique.

Forty nuclear DNA loci are being screened for their discriminating potential. Baseline data tissue samples from adult chinook of known origin were collected in 1994 and 1995. Preliminary studies indicate one loci, *otsII*, may be used to unambiguously discriminate over 50% of the winter-run sampled. Tissue samples from juvenile chinook of unknown origin are being collected in the delta and at Skinner Fish Facility this year for a mixed stock analysis to determine the fraction of winter-run juveniles emigrating through the delta and salvaged at the fish facilities. Results will be used to evaluate the current length method used to discriminate winter run. Tissue samples from winter-run-length juveniles are permitted through the amended USFWS Section 10 Research Permit 747 and state Memorandum of Understanding. DWR has applied for a new permit, expected in mid-February.

Status and Trends

Introduction

Randall Brown, DWR

We have devoted much of this issue of the Interagency Newsletter to a status and trends look at some features of the Sacramento-San Joaquin estuary. The impetus for this look has come from a variety of agencies and individuals who are attempting to assess the ecological health of the bay/delta, and its watershed. For example, the CALFED Bay/Delta Program is attempting to "fix the delta" and must have some idea as to what is broken and what it will look like when fixed.

Before looking at the data, it might be worthwhile to consider some of the complexities associated with attempting to portray estuarine health. By definition, estuaries are constantly changing, and the changes are most obvious in a system such as ours, where California's Mediterranean climate causes well defined seasonal inflow patterns. These dramatic seasonal changes, coupled with extreme

interannual variations due to the ever-changing climate, result in natural fluctuations in many of the communities, populations, and physical and chemical parameters that logically would be used to characterize estuarine health. As a result, measuring estuarine health is somewhat analogous to using body temperature as a indication of a person's health when the temperature can normally range from 5 to 60 degrees C.

In many estuaries, health is often viewed in terms of such conditions as low dissolved oxygen levels; high ambient concentrations of such potential toxicants as pesticides and trace metals; the frequency, duration, and extent of fish kills; and odor and other problems associated with over-production of aquatic plants, including planktonic algae. In these cases — Boston Harbor, for example — the estuary is clearly unhealthy. In some systems, biological